

The short answer is: **yes, both can contain ice, but they behave very differently when falling to Earth.**

While both originate in space, their composition determines how much "ice" is actually present and what happens when they enter our atmosphere.

1. Comets: The "Dirty Snowballs"

Comets are primarily composed of **frozen gases (ices)** such as water, carbon dioxide, methane, and ammonia, mixed with dust and rock.

- **Are they icy?** Yes, intensely. They originate in the cold outer reaches of the solar system (the Kuiper Belt and Oort Cloud).
+1
- **Do they fall to Earth?** It is extremely rare for a whole comet to hit Earth. However, Earth regularly passes through the **debris trails** left behind by comets. These small "icy" fragments burn up in the atmosphere, creating **meteor showers**.
+1
- **Impact:** If a large comet were to enter the atmosphere, the heat of friction would likely cause the volatile ices to vaporize rapidly, potentially leading to a massive atmospheric explosion (like the Tunguska event) before any solid "ice" could reach the ground.

2. Asteroids: The "Rocky Space Fragments"

Asteroids are mostly made of **rock and metal**, but modern science has discovered that many are not as "dry" as once thought.

- **Are they icy?** Some are. While most are rocky, many asteroids (especially those in the outer Main Belt) contain significant amounts of **water ice** buried beneath their surfaces or bound within minerals.
- **Do they fall to Earth?** Yes. When an asteroid (or a fragment of one) enters the atmosphere, it is called a **meteor**. If it survives the fall and hits the ground, it is a **meteorite**.
- **Impact:** Most meteorites found on Earth are stone or metal. Any ice contained within an asteroid typically vaporizes long before the object hits the ground due to the intense heat of atmospheric entry ($3,000^{\circ}\text{F}$ or higher).

Key Comparison

Feature	Comet	Asteroid
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Primary Material	Ice, frozen gases, and dust.	Rock, carbon, and metals.
Ice Content	Very high (the majority of the mass).	Low to moderate (mostly subsurface).
Atmospheric Behavior	Usually vaporizes/explodes (bolide).	Can survive to hit the ground (meteorite).
Origin	Outer Solar System (Cold).	Inner Solar System (Warmer).

Summary: While both can be "icy," a comet is essentially a block of ice that would likely disintegrate or explode in the air. An asteroid is a rock that might *contain* ice, but only the rocky/metallic part is likely to survive the fall to Earth's surface.